## CLAIMS

What is claimed is:

1. An electronic assembly, especially one containing volatile memory which contains a membrane as an intrusion sensor which is fabricated by
spin coating an electrically conducting polymer onto a polymer film ;
patterning the conducting polymer;
and encasing said film substrate and conducting lines with potting material.

2. A structure according to claim 1 wherein said electrically conductive material is selected from the group of one or more of substituted and unsubstituted polyparaphenylene vinylenes, polyparaphenylenes, polyanilines, polythiophenes, polyazines, polyfuranes, polypyrroles, polyselenophenes, poly-p-phenylene sulfides, polyacetylenes combinations thereof and blends thereof with other polymers and copolymers of the monomers thereof.

3. A structure according to claim 1 wherein said electrically conducting lines are laminated with dry film material to mask the lines.

4. A structure according to claim 1 wherein said potting material are organic silicones, epoxies and polyurethane.

5. A structure according to claim 1 in which said potting material is dyed to an opaque color or a color matched with the conducting lines so as to camoflauge their presence in the said structure.

6. A method comprising the steps of :

providing a substrate having a layer of an electrically conductive polymer material;

disposing on said layer of electrically conductive polymer material, a layer of energy sensitive material;

exposing said material to form a pattern in said layer of energy sensitive material;

developing said pattern resulting in exposed and unexposed regions of said electrically conductive polymer;

removing said electrically conductive polymer in said exposed regions;

removing said layer of sensitive material leaving a pattern of said electrically conductive polymer on said substrate.

7. A method according to claim 6 wherein said electrically conductive polymer is selected from the group consisting of one or more of substituted and unsubstituted polyparaphenylene vinylenes, polyparaphenylenes, polyanilines, polythiophenes, polyazines, polyfuranes, polypyrroles, polyselenophenes, poly-p-phenylene sulfides, polyacetylenes combinations thereof and blends thereof with other polymers and copolymers of the monomers thereof.

8. A method comprising:

providing a substrate having a layer of electrically conductive polymer material;

depositing a pattern of a metal layer through a metal mask forming a patterned metal layer on said layer of electrically conductive polymer, forming regions covered by said metal pattern and exposed regions of said electrically conductive polymer;

etching said exposed regions to remove said exposed regions;

removing said metal.

9. A method according to claim 8 wherein said electrically conductive polymer is selected from the group consisting of one or more of substituted and unsubstituted polyparaphenylene vinylenes, polyparaphenylenes, polyanilines, polythiophenes, polyazines, polyfuranes, polypyrroles, polyselenophenes, poly-p-phenylene sulfides, polyacetylenes combinations thereof and blends thereof with other polymers and copolymers of the monomers thereof.

10. A method according to claim 9 wherein mask is a molybdenum mask and said metal is aluminum.

11. A method according to claim 9 wherein etching is reactive ion etching.

12. A method according to claim 9 wherein said exposed regions are removed with acid.

13. A method comprising:

providing a substrate having a layer of an electrically conductive polymer;

disposing a layer of metal on said layer of electrically conductive polymer;

disposing an energy sensitive material on said metal layer;

exposing said energy sensitive material to a pattern of radiation;

developing said pattern, and forming a pattern in said energy sensitive material resulting in exposed and unexposed regions of said electrically conductive polymer;

removing said exposed regions of said electrically conductive polymer;

removing said energy sensitive material;

removing the remaining portions of said metal layer.

14. A method according to claim 13 wherein said electrically conductive polymer is selected from the group consisting of one or more of substituted and unsubstituted polyparaphenylene vinylenes, polyparaphenylenes, polyanilines, polythiophenes, polyazines, polyfuranes, polypyrroles, polyselenophenes, poly-p-phenylene sulfides, polyacetylenes combinations thereof and blends thereof with other polymers and copolymers of the monomers thereof.

15. A method according to claim 14 wherein said metal layer is selected from the group consisting of aluminum, copper, etc.

16. A method according to claim 14 wherein said radiation is electromagnetic radiation.

17. A method according to claim 14 wherein removing said metal layer in said exposed regions is by acid etch.

18. A method according to claim 14 wherein said removing of said electrically conductive polymer in said exposed regions is by reactive ion etching.

19. A method according to claim 14 wherein removing remaining portions of said metal layer is with an acid etchant.

20. An electronic assembly, especially one containing volatile memory provided with a membrane wrap as an intrusion sensor which is fabricated by applying first, an electrically conducting polymer onto a polymer film;
patterning the first conducting polymer into lines;
encasing said conducting lines with a first insulating passivation layer;
applying a second electrically conducting polymer on said first passivating layer;
patterning said second conducting polymer into lines that are spatially staggered with respect to the set of lines in said first conducting polymer;
and overcoating and encasing the layers and the polymer support film with a potting material.

21. An electronic assembly, especially one containing volatile memory provided with a membrane wrap as an intrusion sensor which is fabricated by
applying a first electrically conducting polymer onto a polymer film;

patterning the first conducting polymer into lines;

applying a second electrically conducting polymer on the other side of the membrane wrap;

patterning said second conducting polymer into lines that are spatially staggered with respect to the set of lines formed in said first conducting polymer;

and overcoating and encasing the layers and the polymer support film with a potting material.

22. An electronic assembly, especially one containing volatile memory provided with a membrane wrap as an intrusion sensor which is fabricated by

applying an electrically conducting polymer onto a polymer film;

patterning the said conducting polymer into lines;

encasing said conducting lines with an insulating passivation layer;

screening and curing a conductive ink pattern on the insulating passivation layer such that the conductive ink pattern is spatially staggered with respect to the pattern in the said conducting polymer;

and overcoating and encasing the layers and the polymer support film with a potting material.

23. An electronic assembly, especially one containing volatile memory provided with a membrane wrap as an intrusion sensor which is fabricated by

applying an electrically conducting polymer onto a polymer film;

patterning the said conducting polymer into lines;

screening and curing a conductive ink pattern on the other side of the membrane wrap such that the conductive ink pattern is spatially staggered with respect to the pattern in the said conducting polymer;

and overcoating and encasing the layers and the polymer support film with a potting material.

24. An electronic assembly, especially one containing volatile memory provided with a membrane wrap as an intrusion sensor which is fabricated by

screening and curing a conductive ink pattern on the membrane wrap;

applying an insulating passivation layer over the said conductive ink pattern;

applying an electrically conducting polymer polymer onto said passivation layer;

patterning the said conducting polymer into lines such that the conductive ink pattern is spatially staggered with respect to the pattern in the said conducting polymer;

and overcoating and encasing the layers and the polymer support film with a potting material.

25. An electronic assembly, especially one containing volatile memory provided with a membrane wrap as an intrusion sensor which is fabricated by

producing lithographically defined pattern of metallic conductor lines on the membrane wrap;

applying an insulating passivation layer over the said metallic conductor pattern;

applying an electrically conducting polymer onto said passivation layer;

patterning the said conducting polymer into lines such that the metallic conductor

pattern is spatially staggered with respect to the pattern in the said conducting polymer;

and overcoating and encasing the layers and the support polymer film with a potting material.

26. An electronic assembly, especially one containing volatile memory provided with a membrane wrap as an intrusion sensor which is fabricated by

producing lithographically defined pattern of metallic conductor lines on the membrane wrap;

applying an electrically conducting polymer on the other side of the membrane wrap;

patterning the said conducting polymer into lines such that the metallic conductor pattern is spatially staggered with respect to the pattern in the said conducting polymer;

and overcoating and encasing the layers and the polymer support film with a potting material.

27. An electronic assembly, especially one containing volatile memory provided with a membrane wrap as an intrusion sensor which is fabricated by

applying an electrically conducting polymer onto a polymer film;

patterning the said conductor polymer into lines;

applying a passivation overcoat on the said conducting polymer line pattern;

producing a lithographically produced metallic conductor line pattern on said passivation overcoat such that it is spatially staggered with respect to the said

**conducting polymer line pattern;**

**and overcoating and encasing the layers and the polymer support film with a potting material.**